



Draft Report on the Resiliency of South Carolina's Electric and Natural Gas Infrastructure Against Extreme Winter Storm Events

Mitigation of Impact of Threats to Safe and Reliable Utility Service

2021-66-A

South Carolina Office of Regulatory Staff | October 6, 2021

Objectives

The goals of this presentation are as follows:

- 1) Provide an update on the history and current status of the project
- 2) Provide an overview of the Assessment Framework used in the Draft Report
- 3) Identify the Preliminary Findings
- 4) Discuss the Next Steps
- 5) Address questions regarding the Draft Report or Next Steps

Background

- The extreme weather conditions in February 2021 resulted in interruptions to electric service that left customers in Texas without essential heat and potable water.
- In response, Governor McMaster requested that ORS undertake a comprehensive review of South Carolina's public and private power grid to evaluate the ability to withstand potential ice storms and other dangerous winter weather.
- In May, ORS retained Guidehouse to assist in research and analysis in this project.

Background

- Since June, ORS has issued dozens of discovery requests, and ORS and Guidehouse have conducted hundreds of hours of analysis.
- On September 30th, ORS published its Draft Report on the Resiliency of South Carolina's Electric and Natural Gas Infrastructure Against Extreme Winter Storm Events.
- The Draft Report does not include specific utility details or information but is in aggregate form for the four categories used in the analysis.

The South Carolina Office of Regulatory Staff

and



Guidehouse's Role

- Perform analyses and develop recommendations
- Perform a review and comparison
- Research and identify best practices
- Perform analyses on the cost impacts
- Assist with the development of ORS recommendations
- Develop, organize, and draft the required comprehensive review
- ORS will convey information between Guidehouse and the parties and will be the point of contact for any questions from the participants

Jamie Bond, Project Manager

Associate Director responsible for exceptional PMO leadership

Certified project manager with brings 17 years of technology strategy and regulatory planning experience with a strong focus on grid hardening, resiliency and modernization. She supports facilitation and change management as well as stakeholder engagement activities related to areas of major transformation, such as infrastructure modernization, climate and resiliency planning and new revenue recovery models and rate designs. Jamie's knowledge of the vertically integrated utility model, from generation to customer programs, her extensive background in energy policy, rulemaking and regulatory compliance, and her relationship management roles across various business units and industry groups position Jamie to support utility clients across a range of stakeholder engagement needs.



Guidehouse Assessment Team

DRAFT ASSESSMENT

- Core team of **10**: evaluators, researcher, analysts, project manager
- Incorporated best practice insights from ~ **20** industry reports and studies focused on winter weather events
- Reviewed **20** sets of docketed comments
- Received approximately **800** data request responses and attachments (nearly 200 confidential)

Project Delivery & Report Lead

Jamie Bond, PMP

Project Manager

Project Management & Delivery Leader



Evaluation Leads

Electric Utilities

Gene Shlatz

Bulk Electric & Transmission Evaluation Lead



Ed Batalla

Large Electric Distribution Evaluation Lead



Scott Grafelman

Small Electric Distribution Evaluation Lead



Natural Gas Utilities

Keith Lorenzetti

Large Natural Gas Evaluation Lead



Joaquin Iraheta

Small Natural Gas Evaluation Lead



Generation & Fuel Supply

Bob Ruhlman

Generation & Fuel Supply Evaluation Lead



Research & Analysis

Juan Jimenez

Electric Infrastructure Assessment Analyst



Hannah Davis

Guidehouse Insights Research Lead



Ann Thompson

Project Coordinator / Analyst Support



Hector Artze
Partner in Charge
ES&I Resiliency

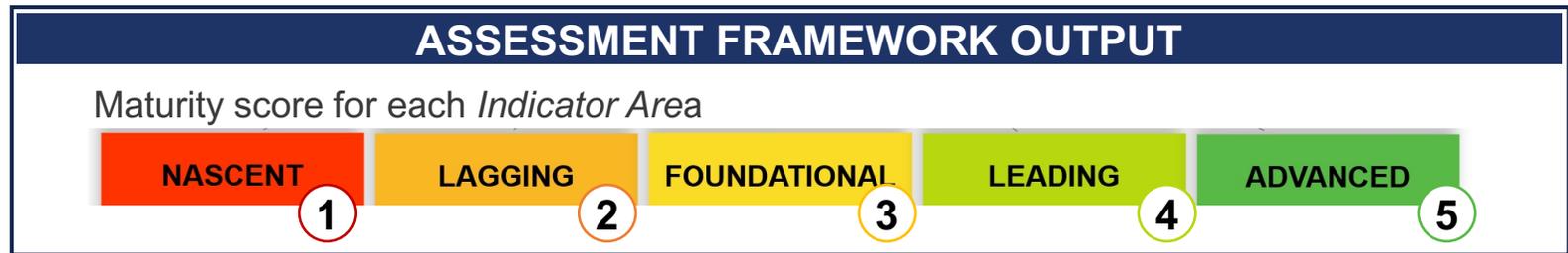
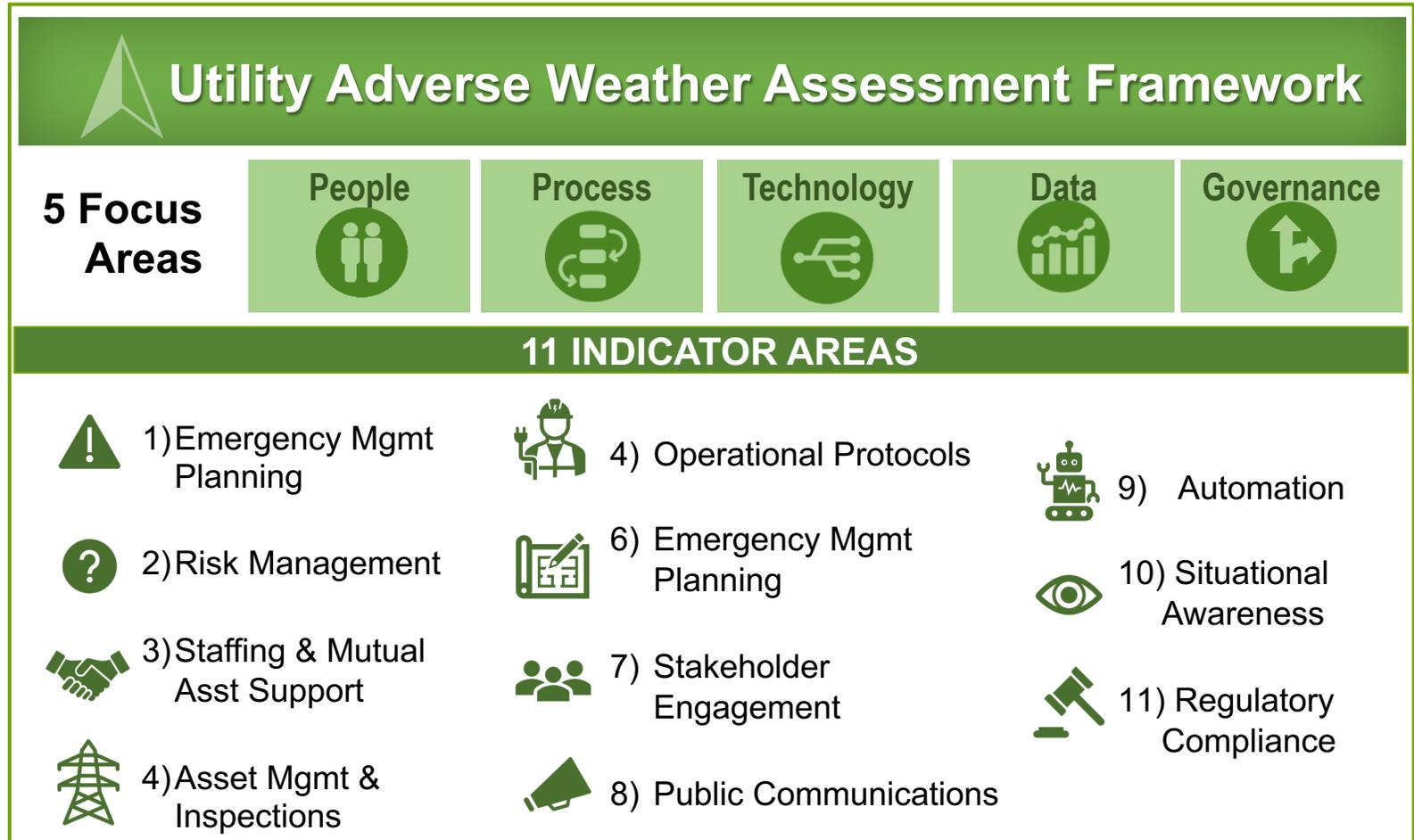


Overall Quality & Oversight

Approach

ASSESSMENT FRAMEWORK

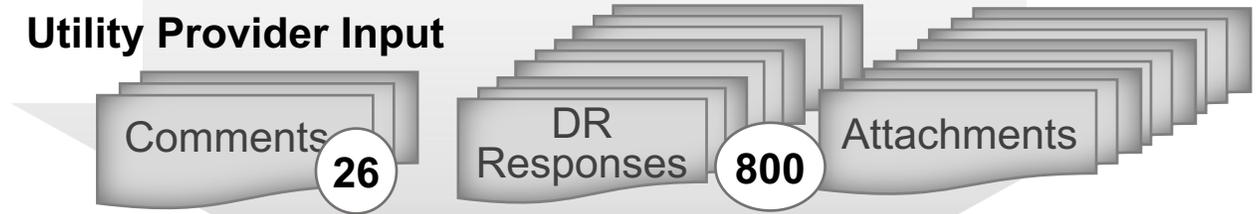
- Leverages Capability Maturity Model Integration (CMMI) process
- Methodical approach to support credibility and defensibility
- Assessment consistency between evaluators and across utility providers
- Outputs can typically support improvements to processes, productivity and effectiveness



Approach

- **Assessment outputs** categorized to groups of similar utilities and sizes
- Findings / recommendations better tailored for these groups

Utility Provider Input



Utility Adverse Weather Assessment Framework

Four (4) Sets of Summary Findings & Recommendations

- Duke Energy Carolinas
- Duke Energy Progress
- Dominion Energy SC
- Santee Cooper

Large Electric Utility Providers (LEU)

- Central Electric
- ECSC (18)
- Lockhart Power
- Marlboro and Pee Dee
- PMPA (10)
- SCAMPS (21)

Small Electric Utility Providers (SEU)

- Dominion Energy SC
- Piedmont Natural Gas

Large Natural Gas Utility Providers (LGU)

- City of Union
- Clinton - Newberry NGA
- Fort Hill NGA
- Greenwood CPW
- Greer CPW
- Laurens CPW
- Patriot Energy Group (3 NGAs)

Small Natural Gas Utility Providers (SGU)

Preliminary Findings

South Carolina power system appears to be **adequately prepared** to prevent and withstand prolonged outages caused by ice storms and winter weather events.

Draft Report – Table 9		Score Summary			
Indicator		LEU	LGU	SEU	SGU
	Indicator 1 – Emergency Management and Planning	3.7	3.2	2.5	Not rated*
	Indicator 2 – Risk Management	3.5	3.4	2.3	2.4
	Indicator 3 – Staffing and Mutual Assistance Support	3.3	2.6	2.6	Not rated*
	Indicator 4 – Asset Management and Inspections	3.3	3.0	1.6	Not rated*
	Indicator 5 – Operational Protocols	3.6	3.0	2.4	Not rated*
	Indicator 6 – System Design and Hardening	3.3	3.1	1.6	2
	Indicator 7 – Stakeholder Engagement	2.9	3.4	1.5	Not rated*
	Indicator 8 – Public Communications	3.6	3.4	1.8	Not rated*
	Indicator 9 – Automation	2.8	N/A	1.0	N/A
	Indicator 10 – Situational Awareness	3.6	2.7	1.8	Not rated*
	Indicator 11 – Compliance to Regulations	2.4	3.4	2.1	2.7

* Not Rated means not calculated due to insufficient response

Next Steps

- Over the next weeks, ORS and Guidehouse will review and update the Draft Report with:
 - 1) Responses to ORS's Second Audit Information Request
 - 2) Comments posted under Docket No. 2021-66-A on the Commission's DMS
 - 3) Additional developments from other states and the federal government
- ORS will issue the Final Report by the end of this year

Questions?

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